

PHILOSOPHICAL TRANSACTIONS.

June, 19. 1671.

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A Curious Relation, taken out the third Venetian Journal de Letterati, of March 15. 1671; Of a Substance found in great quantities in some Mines of Italy; out of which is made a kind of incombustible both Skin, Paper, and Candle wick, together with the Experiments made therewith.

Signor Marco Antonio Castagna, Superintendent of some Mines in Italy, hath lighted in one of them upon a great quantity of that Lanuginous Stone, call'd Amianthus, which he knows so to prepare, as to render

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it so tractable and soft, that it resembleth well enough a very fine Lambs-skin dressed white. He thickens and thinnes it, to what degree he pleaseth, and thereby maketh it like either to a very white Skin, or to a very white Paper; both which refis the most violent fire, as hath been experimented several times. First, The Skin was cover'd with kindled coals, whence it took flame, but being taken out after it had been left there a while, the fiery colour presently disappear'd, and it became cold and white again as before; the fire, it seems, passing only thorough, without wasting or altering any thing of it; whereas some of the hardest and solidest Mettals, as Iron and Copper, reduced to very thin plates, and kept as long in the fire as this substance was, would cast Scales. Again, This Skin being made as thin as Paper, doth not only yeild that ancient and so much admired *Amianthus*, but is also perfecter than that which comes from *Cyprus*, and not inferiour to that, which sometimes, though but seldom, comes out of *China*. This Paper was also tryed in the fire, and there it remained likewise without any visible detriment, or without the least change of its first whiteness, fineness, or softness. Of the same matter this Artist hath wrought a *Week*, never to be consumed as long as 'tis fed, nor altering its quality after the aliment is wasted away. And if that famous and incombustible Oyl were found out again, we read of, this matter would yeild the *Week* for that everlasting Light, so much celebrated by the Antients.

The Inventor promiseth to make further Experiments with this substance, for other discoveries. At the present he is resolved to prepare of it such a quantity of Paper, as may make a Book, and to cover it with the Skin made of the same, and to sow it together with thread made of the same, and to write in it Letters of Gold; so that such a Book, being made in all the parts of it incombustible, and everlasting against the power and injuries of all the Elements, as being proof against the strongest

strongest, and not being subject to Corruption from the other, as Water or Air, may deserve (be saith) the name of the Book of Eternity.

Some Experiments of Signor Carolo Rinaldini, Philosopher and Mathematician in the University of Padoua; shewing the difference of Ice made without Air, from that which is produced with Air: In the same Venetian Journal.

Here was taken a Glass-cane, about $1\frac{1}{3}$ of a Florentin braccia or Ell, open at one end, of which above one Ell and a quarter was fill'd with Quick-silver, the rest with common water. This open end was shut with a finger, and inverted into a vessel with stagnant Mercury; then removing the finger, the Mercury began to fall out, so that the aggregat of the Quick-silver and water falling, the water remain'd in the upper-part of the inverted cane, now free from Air. This being done, the Cane was thus exposed to the open Air in the Month of January, in frosty weather, and in one night the water in it was congealed into Ice of a very good consistence. Afterwards Signor Rinaldini, having compared this Ice with that which was produced in the open Air, found, that the Ice in the Cane was in substance altogether like that of Hail, that is, an opaque and whitish Body; whereas that, which was made in the Air, was transparent like Chrystal. Besides, he observed, that the Ice made in the Cane was heavier *in specie* than that in the ambient Air: which he discover'd by putting it into a fluid, which was *in specie* lighter than water, but heavier than Ice made in the open Air; whereby he found, that, whereas the Ice made in the Cane sunk, that in the Air floated therein.

Which Experiment seems not to favour those (saith the Author) who esteem, that Ice, made in the common Air, is produced by the extrusion of Air-latitant in the water, and by the resolution of the more subtile parts, receiving in their stead the mixture of terrestrial exhalations